IN THE SPECIFICATION:

Please amend paragraph number **[0001]** as follows:

[0001] Field of the Invention: The present invention relates generally to steel body rotary drag ~~bits, and more specifically~~ bits and, more specifically, to retention of generally cylindrical cutting elements within steel bodied rotary drag bits for drilling subterranean formations.

Please amend paragraph number **[0006]** as follows:

[0006] ~~Nothwitstanding~~ Notwithstanding use of a right angle converter to reduce the amount of clearance required, or a longer machining tool which may allow for the collet or chuck holding the machining tool to be positioned at a greater distance from the bit body, in steel-body rotary drill bit designs where adjacent blades are relatively close to one another, interference may still exist. Therefore, bit designs including blades that are relatively near to each other may prevent effective machining of cutting element pockets because an adjacent bit blade may intersect the projection of the cutting element recess geometry itself. Put another way, in order to form the desired cutting element recess having an arcuate surface for conforming to the generally cylindrical portion of a generally cylindrical cutting element and a substantially planar end surface for supporting the generally cylindrical cutting element by way of a flat-bottomed machining tool, such as an end mill, the machining tool may be required to remove a portion of the rotationally leading adjacent blade. As a further complication, drill bit profile designs often taper longitudinally away from the direction of drilling precession as the profile approaches the center of the face of the drill bit. Thus, near the center of the bit, use of a flat-bottomed machining tool to form recesses for generally cylindrical cutting elements within steel body rotary drill bits may be extremely difficult. For this reason, steel body rotary drill bit design may be limited in flexibility in order to utilize the relatively popular generally cylindrical cutting element.

Please amend paragraph number **[0017]** as follows:

[0017] In another embodiment of the cutting retention apparatus of the present invention, a recess may be formed within a bit blade, and a support element itself may be press fit into a retention recess that at least partially intersects the recess in order to form a cutting element pocket. The support element may form at least the substantially planar surface of the cutting element pocket, both the substantially planar surface and a portion of the arcuate or ~~semi-cylindrically~~ semi-cylindrically shaped surface of a cutting element pocket or, alternatively, substantially the entire cutting element pocket.

Please amend paragraph number **[0047]** as follows:

[0047] FIGS. 3A-3F illustrate a cutting element retention apparatus 110 of the present invention, including an exemplary process which may be used in the formation thereof. Further, FIGS. 3A-3F illustrate a cutting element retention apparatus 110 that disposes a generally cylindrical cutting element 112 at a selected backrake angle 128. FIG. 3A shows a ~~cross-sectional~~ cross-sectional view of bit blade 130 having a leading face 123 and a trailing face 124. Reference axis 127 is parallel to the longitudinal axis of the drill bit (not shown). Bit blade 130 also includes upper surface 125 as well as chamfer 129. Chamfer 129 is sized and configured so that the cutting face 113 of generally cylindrical cutting element 112 may not be disposed within the arcuate surface of recess 122. Such a configuration may improve the ability to remove cuttings from the cutting face 113 of the generally cylindrical cutting element 112. Of course, the bit blade 130 shape may be tapered, rounded, or arcuately shaped in extending from the bit body (not shown) along both the leading face 123 and trailing face 124.

Please amend paragraph number **[0055]** as follows:

[0055] Alternatively, as a further embodiment of the present invention, FIG. 4G shows a cross-sectional view of an assembled cutting element retention apparatus 211 illustrating generally cylindrical cutting element 212 disposed within a recess 222 formed substantially entirely by support element 244 and configured so that at least a portion of substantially planar

surface 215 of the generally cylindrical cutting element 212 matingly engages the front surface 217 of support element 244. ~~Futher,~~ Further, arcuate surface 249 engages at least a portion of the generally cylindrical side surface of generally cylindrical cutting element 212. Support element 244 may be disposed within retention recess 220 and cutting face 213 of generally cylindrical cutting element 212 may be disposed at backrake angle 228 with respect to reference axis 227 according to the geometry and orientation of the retention recess 222, support element 244, and retention recess 220. Generally cylindrical cutting element 212, as shown in FIG. 4G may comprise a superabrasive layer 234 which forms cutting face 213 affixed to substrate 232, such as in the case of a PDC cutter.

Please amend paragraph number **[0059]** as follows:

[0059] In addition, many geometrical alternatives are contemplated by the present invention. For instance, if the bit blade 330 has a relatively large thickness t, it may be desirable to form the recess 322 only partially through the thickness, t, thereof. Also, as described ~~herinabove,~~ hereinabove, one or more surfaces of a cutting element pocket 326 may be formed by the support element 314.

Please amend paragraph number **[0061]** as follows:

[0061] In a further aspect of the invention, it may be advantageous to mechanically lock the generally cylindrical cutting element by configuring the side walls of the cutting element pocket to surround more than half of a cross-sectional circumference of the generally cylindrical cutting element in combination with a support element defining at least a portion of the cutting element pocket. Put another way, along at least a portion of the generally or substantially cylindrical surface of a generally cylindrical cutting element, the cutting element pocket surrounds more than half of a cross-sectional circumference thereof. Clarifying further, the cutting element pocket need not surround more than half of the entire generally cylindrical surface of the generally cylindrical cutting element along the entire length thereof. Rather, the cutting element pocket may surround more than half of a circumference of the generally

cylindrical cutting element at any position along the length thereof. Thus, any of the ~~above-described~~ above-described embodiments may employ a cutting element pocket surrounding more than half of a cross-sectional circumference of a generally cylindrical cutting element disposed therein. Further, it is contemplated by the present invention that a support element may surround more than half of a cross-sectional circumference of a generally cylindrical cutting element.

Please amend paragraph number **[0062]** as follows:

[0062] FIGS. 6A-6D illustrate one embodiment of a mechanically locked cutting element retention apparatus 410. As shown in FIG. 6A, recess 422 formed within bit blade 430 may be cylindrical and may be sized and configured to surround more than half of a ~~cross-sectional~~ cross-sectional circumference of a generally cylindrical cutting element disposed therein. As such, a cutting element (not shown) disposed within recess 422 and brazed therein may be retained, notwithstanding fracturing of a portion of the generally cylindrical cutting element (not shown). Retention recess 420, formed within bit blade 430, may also include alignment groove 421 for orienting support element 414 therein by way of an alignment pin (not shown) as described hereinabove with respect to FIGS. 4A-4F.

Please amend paragraph number **[0066]** as follows:

[0066] In another aspect of the present invention, a cavity may be formed for positioning secondary structures. FIGS. 7A and 7B illustrate cutting element retention apparatus 510 and 511 of the present invention. FIG. 7A shows a perspective view of a cutting element retention apparatus 510 of the present invention wherein cavity 550 may be formed generally rotationally trailing cutting element pocket 526 within upper surface 525 of bit blade 530. Also, retention recess 520 may be formed within bit blade 530 as well as recess 522 formed partially through bit blade 530 between leading face 523 and trailing face 524 thereof. Cutting element pocket 526, as shown in FIG. 7A, may be configured to surround more than half of a ~~cross-~~

~~sectional~~ cross-sectional circumference of a generally cylindrical cutting element (not shown) and, therefore, may mechanically lock a generally cylindrical cutting element disposed therein.